

carrying out a first heat treatment to transform the at least a portion of the amorphous semiconductor thin film into a crystalline semiconductor thin film; and

carrying out a second heat treatment for the crystalline semiconductor thin film in a reducing atmosphere including a halogen element to flatten a surface of the crystalline semiconductor thin film.

20. (Amended) A method of fabricating a semiconductor device comprising:

adding an element for facilitating crystallization of an amorphous semiconductor thin film to at least a portion of the amorphous semiconductor thin film;

carrying out a first heat treatment to transform the at least a portion of the amorphous semiconductor thin film into a crystalline semiconductor thin film;

carrying out a second heat treatment of irradiating the crystalline semiconductor thin film with ultraviolet light or infrared light; and

carrying out a third heat treatment for the crystalline semiconductor thin film at 900 to 1200°C in a reducing atmosphere to flatten a surface of the crystalline semiconductor thin film.

22. (Amended) A method of fabricating a semiconductor device comprising:

adding an element for facilitating crystallization of an amorphous semiconductor thin film to at least a portion of the amorphous semiconductor thin film;

carrying out a first heat treatment to transform the at least a portion of the amorphous semiconductor thin film into a crystalline semiconductor thin film;

carrying out a second heat treatment of irradiating the crystalline semiconductor thin film with ultraviolet light or infrared light; and

carrying out a third heat treatment for the crystalline semiconductor thin film in a reducing atmosphere including a halogen element to flatten a surface of the crystalline semiconductor thin film.

25. (Amended) A method of fabricating a semiconductor device comprising:

adding an element for facilitating crystallization of an amorphous semiconductor thin film to at least a portion of the amorphous semiconductor thin film;

carrying out a first heat treatment to transform the at least a portion of the amorphous semiconductor thin film into a crystalline semiconductor thin film;

selectively providing the crystalline semiconductor thin film with an element of group 15;
carrying out a second heat treatment to getter the catalytic element into a region of the crystalline semiconductor thin film selectively provided with the element of group 15;
patterning the crystalline semiconductor thin film into at least one crystalline semiconductor island to become at least a channel formation region by removing at least the region of the crystalline semiconductor thin film selectively provided with the element of group 15; and
carrying out a third heat treatment for the at least one crystalline semiconductor island at 900 to 1200°C in a reducing atmosphere to flatten a surface of the at least one crystalline semiconductor island.

28. (Amended) A method of fabricating a semiconductor device comprising:
adding an element for facilitating crystallization of an amorphous semiconductor thin film to at least a portion of the amorphous semiconductor thin film;
carrying out a first heat treatment to transform the at least a portion of the amorphous semiconductor thin film into a crystalline semiconductor thin film; and
carrying out a second heat treatment for the crystalline semiconductor thin film at 900 to 1200°C in an atmosphere containing hydrogen therein to flatten a surface of the crystalline semiconductor thin film.

30. (Amended) A method of fabricating a semiconductor device comprising:
forming a semiconductor film comprising silicon over a substrate;
crystallizing said semiconductor film;
subsequently heating said semiconductor film provided with an oxide formed on a surface thereof in an atmosphere which reduces said oxide formed on said surface.

31. (Amended) A method of fabricating a semiconductor device comprising:
forming a semiconductor film comprising silicon over a substrate;
crystallizing said semiconductor film;
subsequently heating said semiconductor film provided with an oxide formed on a surface thereof in an atmosphere which reduces said oxide formed on said surface, wherein said atmosphere comprises hydrogen.

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34. (Amended) A method of fabricating a semiconductor device comprising:
forming a semiconductor film comprising silicon over a substrate;
crystallizing said semiconductor film;
subsequently heating said semiconductor film provided with an oxide formed on a surface thereof at a temperature of 900 to 1200 °C in an atmosphere which reduces said oxide formed on said surface.

35. (Amended) A method of fabricating a semiconductor device comprising:
forming a semiconductor film comprising silicon over a substrate;
crystallizing said semiconductor film;
subsequently heating said semiconductor film provided with an oxide formed on a surface thereof at a temperature of 900 to 1200 °C in an atmosphere which reduces said oxide formed on said surface,
wherein said atmosphere comprises hydrogen.

Please add the following new claims 88-171 as follows: }

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--88. A method according to claim 15 wherein said semiconductor device is a video camera.

89. A method according to claim 15 wherein said semiconductor device is a digital camera.

90. A method according to claim 15 wherein said semiconductor device is a projector.

91. A method according to claim 15 wherein said semiconductor device is a head mount display.

92. A method according to claim 15 wherein said semiconductor device is a car navigation system.

93. A method according to claim 15 wherein said semiconductor device is a personal computer.

94. A method according to claim 15 wherein said semiconductor device is a portable information terminal.

95. A method according to claim 17 wherein said semiconductor device is a video camera.

96. A method according to claim 17 wherein said semiconductor device is a digital camera.

97. A method according to claim 17 wherein said semiconductor device is a projector.
98. A method according to claim 17 wherein said semiconductor device is a head mount display.
99. A method according to claim 17 wherein said semiconductor device is a car navigation system.
100. A method according to claim 17 wherein said semiconductor device is a personal computer.
101. A method according to claim 17 wherein said semiconductor device is a portable information terminal.
102. A method according to claim 20 wherein said semiconductor device is a video camera.
103. A method according to claim 20 wherein said semiconductor device is a digital camera.
104. A method according to claim 20 wherein said semiconductor device is a projector.
105. A method according to claim 20 wherein said semiconductor device is a head mount display.
106. A method according to claim 20 wherein said semiconductor device is a car navigation system.
107. A method according to claim 20 wherein said semiconductor device is a personal computer.
108. A method according to claim 20 wherein said semiconductor device is a portable information terminal.
109. A method according to claim 22 wherein said semiconductor device is a video camera.
110. A method according to claim 22 wherein said semiconductor device is a digital camera.
111. A method according to claim 22 wherein said semiconductor device is a projector.
112. A method according to claim 22 wherein said semiconductor device is a head mount display.

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sub G1 → 113. A method according to claim 22 wherein said semiconductor device is a car navigation system.

114. A method according to claim 22 wherein said semiconductor device is a personal computer.

115. A method according to claim 22 wherein said semiconductor device is a portable information terminal.

116. A method according to claim 25 wherein said semiconductor device is a video camera.

117. A method according to claim 25 wherein said semiconductor device is a digital camera.

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D9 118. A method according to claim 25 wherein said semiconductor device is a projector.

119. A method according to claim 25 wherein said semiconductor device is a head mount display.

120. A method according to claim 25 wherein said semiconductor device is a car navigation system.

121. A method according to claim 25 wherein said semiconductor device is a personal computer.

122. A method according to claim 25 wherein said semiconductor device is a portable information terminal.

sub G1 → 123. A method according to claim 28 wherein said semiconductor device is a video camera.

124. A method according to claim 28 wherein said semiconductor device is a digital camera.

125. A method according to claim 28 wherein said semiconductor device is a projector.

126. A method according to claim 28 wherein said semiconductor device is a head mount display.

127. A method according to claim 28 wherein said semiconductor device is a car navigation system.

128. A method according to claim 28 wherein said semiconductor device is a personal computer.

claim 7
~~129. A method according to claim 28 wherein said semiconductor device is a portable information terminal.~~

~~130. A method according to claim 30 wherein said semiconductor device is a video camera.~~

~~131. A method according to claim 30 wherein said semiconductor device is a digital camera.~~

~~132. A method according to claim 30 wherein said semiconductor device is a projector.~~

~~133. A method according to claim 30 wherein said semiconductor device is a head mount display.~~

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~~134. A method according to claim 30 wherein said semiconductor device is a car navigation system.~~

~~135. A method according to claim 30 wherein said semiconductor device is a personal computer.~~

~~136. A method according to claim 30 wherein said semiconductor device is a portable information terminal.~~

~~137. A method according to claim 31 wherein said semiconductor device is a video camera.~~

~~138. A method according to claim 31 wherein said semiconductor device is a digital camera.~~

~~139. A method according to claim 31 wherein said semiconductor device is a projector.~~

~~140. A method according to claim 31 wherein said semiconductor device is a head mount display.~~

~~141. A method according to claim 31 wherein said semiconductor device is a car navigation system.~~

~~142. A method according to claim 31 wherein said semiconductor device is a personal computer.~~

~~143. A method according to claim 31 wherein said semiconductor device is a portable information terminal.~~

~~144. A method according to claim 32 wherein said semiconductor device is a video camera.~~

inter 145. A method according to claim 32 wherein said semiconductor device is a digital camera.

146. A method according to claim 32 wherein said semiconductor device is a projector.

147. A method according to claim 32 wherein said semiconductor device is a head mount display.

148. A method according to claim 32 wherein said semiconductor device is a car navigation system.

149. A method according to claim 32 wherein said semiconductor device is a personal computer.

Carved 150. A method according to claim 32 wherein said semiconductor device is a portable information terminal.

D9 151. A method according to claim 33 wherein said semiconductor device is a video camera.

152. A method according to claim 33 wherein said semiconductor device is a digital camera.

153. A method according to claim 33 wherein said semiconductor device is a projector.

154. A method according to claim 33 wherein said semiconductor device is a head mount display.

155. A method according to claim 33 wherein said semiconductor device is a car navigation system.

156. A method according to claim 33 wherein said semiconductor device is a personal computer.

157. A method according to claim 33 wherein said semiconductor device is a portable information terminal.

158. A method according to claim 34 wherein said semiconductor device is a video camera.

159. A method according to claim 34 wherein said semiconductor device is a digital camera.

160. A method according to claim 34 wherein said semiconductor device is a projector.

161. A method according to claim 34 wherein said semiconductor device is a head mount display.